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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,253	01/27/2004	Kenneth M. Berry	KMB 64525	9567

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EXAMINER

MULLEN, THOMAS J

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,253

Applicant(s)

BERRY, KENNETH M.

Examiner

Thomas J. Mullen, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 2 pages
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/15/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. The patent number associated with parent application 09/964,487 should be inserted in paragraphs 0001 and 0053 of the specification, in the appropriate place.
2. The disclosure is objected to because of the following informalities: paragraph 0037, line 5, it appears "positioning sensor locations" would be clearer as --positioning sensorsat locations--.

Appropriate correction is required.

3. The drawings are objected to because:
in Fig. 9, within the box at the upper right, it appears that "Axis's" should be --Axes--; and
in Fig. 11, within the box at the upper right, it is unclear what is meant by "Rings 1, 2, 3, 4 & 5" (note that Fig. 11 shows four "rings" labeled C1-C4 respectively, while Fig. 12 shows five "rings", each simply labeled "C").

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Claim 22 is objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22, line 1, it appears that "sensor comprises" should be --sensorscomprise-- (note the plural "sensors" recited in claim 18).

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-17, 24, 27, 47 and 49-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 49, where the preamble of the claim recites plural "sensors" (note e.g. in claim 49, "array of...sensors" and "the sensors"), such that the claim as a whole is directed to determining positions of each of the plural sensors, the recitation (line 7) of "positioning at least one contaminant sensor..." leaves unclear how the positioning of the other sensors is determined.

In claim 24, it is unclear with respect to what other element(s) or location(s) the contaminant sensor is "remotely positioned".

In claim 27, it is unclear what is meant by containment sensors comprising "locations" per se; i.e., sensors are physical devices "comprising" physical components, which are placed at (rather than "comprising") "locations".

In claim 47, it is unclear if "a detection system" and "a response system" have anything to do with the "detecting" and "responding" steps recited in claim 35.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2, 4-5, 8, 13, 15-19, 24, 29-30, 32, 34-37, 40 and 47-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Gelbard (US 6687640).

(Note: the effective date of applicant's claimed invention is considered to be 1/31/03, the filing date of provisional application 60/444,369, as the concepts of (i) modeling a "contaminant dispersion pattern" and positioning sensors based thereon, and (ii) selectively positioning plural contaminant sensors, were not fully disclosed in the parent application 09/964,487; i.e., there is no discussion of individual "sensors" in the '487 application.)

Gelbard discloses a building having rooms (as shown in Fig. 2), at least some of the rooms having a "contaminant sensor" therein (illustrated by the dark dots in Fig. 2). As discussed in the Abstract and from col. 1, line 26 to col. 2, line 25, airborne contaminant concentrations in rooms which lack such a sensor are inferred (or predicted) based on data collected by contaminant sensors in rooms which have such a sensor; the measured and predicted contaminant sensor concentrations are used to "identify a near-optimal distribution of sensors within the building", when the number of available sensors is less than the total number of rooms; and, the data can be used to "predict one or more contaminant initial release points". The predicting of contaminant initial release points corresponds to "identifying at least one potential contaminant release location", as recited in claims 1, 34, 48 and 49; also, simply determining which particular sensors return positive readings of contaminants--which is necessary to carry out the inference mentioned above--implicitly constitutes identifying a "potential" contaminant release location, i.e. the particular room containing the particular sensor having a positive contaminant reading. The inferring of airborne contaminant concentrations in rooms which lack a sensor, based on data collected by contaminant sensors in rooms which have such a sensor, corresponds to "modeling a contaminant dispersion pattern", as recited in claims 1, 34, 48 and 49. It is implied that once the "near-optimal distribution of sensors" is determined, the sensors are then "positioned" according to that distribution (see col. 2, lines 18-20), as recited in claims 1, 34, 48 and 49.

Regarding claim 18, as implied above (and as specified at col. 1, lines 27-29), Gelbard teaches "collecting detection data" from the sensors; it is further implied that the collected data is used for "identifying the occurrence of unsafe contaminant levels", where an "unsafe level" may simply be the presence of any amount of detected contaminant.

Regarding claim 35, Gelbard teaches "responding to the contaminant release" as set forth at col. 1, lines 29-33.

Regarding claim 2, it appears to be implied by the dark "dots" in Fig. 2 of Gelbard (which represent sensor locations, as mentioned above, and are characterized as "point detectors" in the descriptive matter shown in Fig. 2) that the contaminant release locations are considered "point" sources.

Regarding claim 4, the data collected by contaminant sensors in rooms which have such a sensor--which forms the basis for the inference mentioned above--constitutes "input data" for carrying out the modeling (i.e. the inference).

Regarding claim 5, the "inferred" data mentioned above constitutes "at least one hypothetical contaminant concentration".

Regarding claim 8, the "contaminant dispersion pattern" is implicitly based on "simulation data", i.e. the inferred data discussed above.

Regarding claims 13, 19 and 37, Gelbard teaches detecting various types of "contaminants" (see col. 3, lines 46-50).

Regarding claim 15, it appears to be implied in Gelbard that the contaminant sensors are "stationary", once placed according to the "near-optimal distribution" discussed above.

Regarding claims 16-17, 32 and 36, note the discussion of claims 18 and 35 above.

Regarding claim 24, it is apparent from Figs. 2-3 of Gelbard that the sensors are "remotely positioned", both with respect to each other and with respect to a central monitoring station.

Regarding claims 29-30, note the discussion of claims 1, 34, 48 and 49 above.

Regarding claim 40, Gelbard teaches "implementing protective measures" as set forth at col. 1, lines 29-33 (see the discussion of claim 35 above), including evacuation of people from the contaminated areas, decontamination of such areas, etc.

Regarding claims 47 and 50, it is inherent that the "detection" and "response" portions of the Gelbard system communicate via an "information technology infrastructure".

9. Claims 18, 20-22, 35-36 and 38-39 rejected under 35 U.S.C. 102(e) as being anticipated by Dungan (US 6670887), or in the alternative under 35 U.S.C. 102(b) as being anticipated by Fasano (US 6114964).

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Each of Dungan and Fasano teach detecting a contaminant release by collecting detection data from selectively placed contaminant sensors, and identifying the occurrence of unsafe contaminant levels so as to respond to the contaminant release, wherein the detection data includes weather conditions such as wind speed and/or wind direction. See in Dungan, Figs. 1-3 and 5-5a; col. 3, lines 17-21; col. 6, lines 26-31 and 42-44; and col. 7, lines 25-58. See in Fasano, Figs. 1-5; col. 3, line 51 to col. 4, line 12; col. 5, lines 14-35; col. 6, lines 4-8; and col. 6, line 54 to col. 7, line 56.

Regarding claim 22, each of Dungan and Fasano teach using "infrared" and/or other types of sensors. See e.g. col. 9, lines 1-2 in Dungan, and col. 4, lines 53-55 in Fasano.

10. Claim 23 is rejected under 35 U.S.C. 102(e) as being anticipated by Dungan.

Dungan, discussed above, further teaches that monitoring devices 14a-14d (i.e., the contaminant sensors) may be "programmed" by a keypad 5 (see e.g. Figs. 5 and 7 and col. 9, lines 3-13); in addition, Dungan teaches that the keypad or "data entry apparatus" may be responsive to a "remote control unit" (col. 4, lines 17-20), i.e. Dungan teaches that the sensors are "remotely programmable".

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 6-7, 9-12, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelbard.

Regarding claims 6-7, 9-12 and 14, the examiner takes Official Notice that at the time of the invention it was well known in the art to incorporate "weather conditions", various "contaminant" parameters, certain "background data", "continuous" or "periodic" modeling, and/or "mobile" sensors, into a contaminant sensor system and method of the type disclosed by

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Gelbard (as discussed above), such that it would have been obvious to incorporate any of these features into such a system as needed.

Regarding claim 22, although Gelbard fails to specify the type of sensor used ("optically based", "infrared", etc.), it would have been obvious to one of ordinary skill to select an appropriate "chemical/ biological sensor" (col. 1, lines 19-20 in Gelbard) from among the various of known sensor types, such as one or more of those recited in the claim.

13. Claims 25-28, 31, 33, 41 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Gelbard, Dungan or Fasano.

The examiner takes Official Notice that at the time of the invention it was well known in the art to incorporate "continuous" or "periodic" data collection/detection, "sampling" locations, "background data", "syndromic data", "medical response procedures", and/or closing of "travel routes", into a contaminant sensor system and method of the type disclosed by Gelbard (as discussed above), such that it would have been obvious to incorporate any of these features into such a system as needed.

14. Claims 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelbard, further in view of Reeser (US 4973970).

The "protective measures" set forth at col. 1, lines 29-33 of Gelbard (mentioned above) fail to specify the providing of "alarms", "instructions", "updates", etc. for various persons, or the "sealing" of a contaminated building or room. However, such measures are well known in the art, as taught by the analogous system of Reeser who teaches "characterizing contamination levels" of a selected site, using detectors or "on-site stations" 14,16,18 (Fig. 1) to "detect the contamination levels at selected points within the site" (Abstract) and transmit contamination data to a "base station" 12; the base station may then generate a "remediation needs report" 48 providing information useable for "quarantining contaminated areas" and "directing subsequent clean-up operations" (col. 5, lines 46-49). Thus, the report 48 of Reeser provides "instructions" and/or "updates" which may correspond to "sealing" of a contaminated area. In view of Reeser it would have been obvious to incorporate at least "instructions" and/or "updates" in the "protective measures" taught by Gelbard, as in claim 42, wherein the "quarantining" taught by Reeser would

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correspond to "sealing of at least one building and/or room" in Gelbard, as in claim 43; both of these measures (when applied to Gelbard) serving to further enhance the safety of persons who would normally use the "rooms" in Gelbard, and to isolate the contaminant and facilitate its removal from such "rooms".

15. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gelbard, further in view of Berry (US 6293861), cited by applicant.

(Note: since the effective date of applicant's claimed invention is considered to be 1/31/03 as discussed above, the Berry '861 patent qualifies as prior art under 35 USC 102(b)).

Where Gelbard teaches decontamination of an area determined to be contaminated (as discussed above with respect to claim 40), and where Gelbard characterizes the contaminants as "airborne" (Abstract, line 1), one skilled in the art would have appreciated that a "positive pressure system" would be useful to remove the contaminant from the contaminated area. Berry '861 discloses an analogous system (monitoring "internal attacks", e.g. in a room of a building) and teaches automatically responding to a sensed contamination by having a central processor "close off the affected area, and activate (an) over-pressure system" (Abstract). In view of Berry '861, it would have been obvious for the "decontamination" carried out by Gelbard to include operating a "positive pressure system", in order to efficiently remove any "airborne" contaminants from the affected area.

16. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gelbard, further in view of Wicks et al (US 5979565), cited by applicant.

Where Gelbard teaches decontamination of an area determined to be contaminated (as discussed above with respect to claim 40), and where Gelbard characterizes the contaminants as "airborne" (Abstract, line 1), it is implied that decontaminating the air involves "introduction of clean air", i.e. the contaminated air is implicitly replaced with "clean" air. Regardless, Wicks et al discloses an analogous system ("emergency ventilation system for biological/chemical contamination") where a response system "conveys life-sustaining air to displace air contaminated by biological or chemical toxins" (Abstract). In view of Wicks et al, it would have been obvious for the "decontamination" carried out by Gelbard to include "introduction of clean

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air" per se, in order to enhance the chances of survival of any person(s) who may be trapped, unconscious, etc. in the contaminated area (i.e. "room" in Gelbard).

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

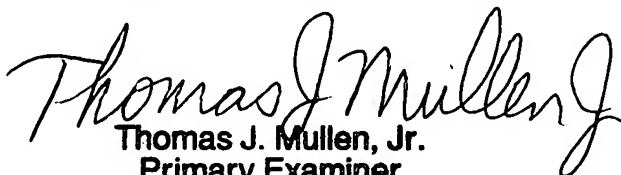
Kulesz et al (US 2004/15336), Burns et al (US 6941806), Raeth et al (US 2003/65409), Malobabic (US 2005/118704), Krajci (US 6182497), Berger (US 6539311), Hopmeier (US 2002/86430), Ghahramani (US 6664898), Wood (US 6946644), Gergely (US 4446370), Meyers (US 4058802) and Milly (US 4135092) are cited to further show the state of the art.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mullen, Jr. whose telephone number is 571-272-2965. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

TJM


Thomas J. Mullen, Jr.
Primary Examiner
Art Unit 2632